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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,815	02/25/2000	Alfredo Dal Pan	Q-57966	6697

7590 11/27/2001
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2100 Pennsylvania Avenue N W
Washington, DC 20037-3202

EXAMINER

KERNS, KEVIN P

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 11/27/2001

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/512,815

Applicant(s)

DAL PAN, ALFREDO

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-28 is/are rejected.
- 7) ☒ Claim(s) 20,22,23 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

2. Claims 20, 22, 23, and 27 (as amended) are objected to because of the following informalities: in claim 20, "associate" should be changed to "associated". In claim 22, "including also" should be changed to "also including". In claim 23, line 4, "aid" should be changed to "said". In claim 27, line 3, "mean" should be changed to "means". Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rikker (US 4,947,923) in view of Takayuki (JP 1-005640).

Rikker discloses a method and apparatus for evaporative pattern (lost-foam) casting in which the apparatus is comprised of multiple operation stations connected by conveyors, sand feeding means (hopper) with associated loading means, supporting means (frame) with associated vibration means, vertically-adjusting (bracket-like) mobile equipment elements, as well as handling, transfer, and positioning means (insertion and removal device) that sustain (clamp) the models (patterns) during feeding of sand (abstract; column 6, lines 19-29, 42-46, and 58-60; column 7, lines 14-52; column 9, lines 30-44 and 66-68; column 10, lines 1-5, 14-28, and 34-42; column 12, lines 22-37; column 14, lines 34-68; column 15, line 1; column 16, lines 44-47; column 25, lines 54-66; column 26, lines 8-31; and Figures 1-3, 11-13, 16-18, 21, and 22). Rikker does not specifically disclose the second gripping element for the container(s) such that the model and the container are operative as a single piece during vibration.

However, Takayuki teaches an apparatus for burying a lost foam pattern in which a vessel is charged, tilted, and vibrated via a shiftable carriage while the pattern M is inserted into the molding box together with the vessel (as a single piece) to pack the silica in the box (abstract). The vessel is tilted together with rotation while vibrating the vibrating table, thus eliminating the gap between the pattern M and the sand, for the purpose of preventing a deteriorated casting (abstract).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the apparatus of Rikker by adding the second gripping element for the container(s) such that the model and the container are operative as a single piece during vibration, as taught by Takayuki, in order to prevent a deteriorated casting (Takayuki; abstract).

6. Claims 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Travillian (US 4,768,567) in view of Takayuki (JP 1-005640).

Travillian teaches a multiple-station sand fill apparatus for lost foam casting in which an expendable pattern is embedded in sand to form a lost foam casting mold (abstract; column 1, lines 5-14; column 3, lines 6-15; and Figures 1 and 3). The apparatus contains means for vibrating the flask during sand fill from a supply hopper to promote dense packing and to reduce pattern distortion (column 2, lines 15-26 and 50-56; column 3, lines 37-54; column 4, lines 51-52; column 5, lines 39-47; and Figures 1 and 3). The pattern is held by a fixture with associated (bracket) clamp for gripping (mobilizing and positioning means) in a desired position within (or initiating removal

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from) the flask (column 2, lines 36-44; column 3, lines 64-68; column 4, lines 1-15 and 34-44; column 5, lines 7-9; and Figures 1 and 3). Travillian does not specifically disclose the second gripping element for the container(s) such that the model and the container are operative as a single piece during vibration.

However, Takayuki teaches an apparatus for burying a lost foam pattern in which a vessel is charged, tilted, and vibrated via a shiftable carriage while the pattern M is inserted into the molding box together with the vessel (as a single piece) to pack the silica in the box (abstract). The vessel is tilted together with rotation while vibrating the vibrating table, thus eliminating the gap between the pattern M and the sand, for the purpose of preventing a deteriorated casting (abstract).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the apparatus of Travillian by adding the second gripping element for the container(s) such that the model and the container are operative as a single piece during vibration, as taught by Takayuki, in order to prevent a deteriorated casting (Takayuki; abstract).

7. Claims 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Rikker (US 4,947,923) or Travillian (US 4,768,567) in view of Takayuki (JP 1-005640), as applied to claims 17 and 21-23 above, and further in view of McMellon (US 4,736,787).

Both Rikker and Travillian (each in view of Takayuki) disclose all the elements of claims 17 and 21-23 above. Neither Rikker nor Travillian (each in view of Takayuki)

teaches centering elements for accurate positioning of elements in the apparatus, as well as a system that would recognize the status of the components of the system via identification signals.

However, McMellon discloses a lost foam handling system in which a plurality of stations comprised of gondolas on rails individually contains alignment means to position the flask-carrying gondolas relative to the compaction and dump stations, the positioning (alignment) device of which contains clevis-like (fork structure) and tongue-like members with a pivotally connected interlocking pin therebetween (abstract; column 3, lines 10-51; column 5, lines 5-11 and 17-29; and Figures 1-5). A controller that provides position and status signals to operate the conveyor and associated components include a programmable microprocessor to actuate the sequence at each of the plurality of stations (abstract; column 4, lines 48-66; and Figures 1 and 2). These features are advantageous for providing an automated conveyance system for lost foam casting with proper alignment and operation speeds at various stations to allow the system to be tailored to meet the specific needs and resources desired where the controller is installed (column 1, lines 6-15; column 2, lines 54-57; column 4, lines 61-66; and column 5, lines 5-11).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the apparatus of either Rikker or Travillian (each in view of Takayuki) with the lost foam system containing positioning (alignment) means, as well as a programmable microprocessor, both of which are disclosed by McMellon, in order to provide an automated conveyance system for lost foam casting

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with proper positioning alignment and operation speeds at various stations to allow the system to be tailored to meet the specific needs and resources desired where the controller is installed (McMellon; column 1, lines 6-15; column 2, lines 54-57; column 4, lines 61-66; and column 5, lines 5-11).

Response to Arguments

8. Applicant's arguments with respect to claims 17-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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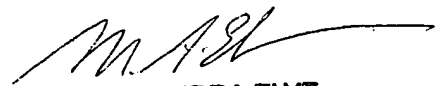
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KPK

kpk
November 14, 2001


M. ALEXANDRA ELVE
PRIMARY EXAMINER